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LOWE HAUPTMAN GILMAN & BERNER, LLP
Suite 300
1700 Diagonal Road
ALEXANDRIA, VA 22314

EXAMINER

CHANG, RICHARD

ART UNIT PAPER NUMBER

2663

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/801,040

Applicant(s)

HETHUIN ET AL.

Examiner

Richard Chang

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 10-17 is/are rejected.
- 7) ☒ Claim(s) 6-9, 18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 06/22/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

2. The abstract of the disclosure is objected to because the abstract is not in narrative form. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5 and 10-17 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by US patent No. 6,366,569 ("Ritter").

Regarding claims 1 and 11, Ritter teaches a method and system of the GSM/TDMA mobile radio communications network using a train of simple basic pulses (using a protocol of pulse transmissions) between one base station (master station) and a mobile station (one or more user stations) (See Fig. 1, Col. 1, lines 39-46), wherein the master station and the user stations comprise the programmable devices (equipped with processors) (See Col. 5, lines 4-8) comprising the steps of

synchronizing by means of a transmission interval the pulse responses in a signal processing operation for pulse from the transmitter (SE in BS as master station) received by the receiver (EE in MS as user stations),

acquiring the pulse responses in a signal processing operation for pulse from the transmitter (SE in MS as user stations) received by the receiver (EE in BS as master station) (See Fig. 2 and 2A, Col. 6, lines 47-54),

sending pulses close to each other from the base station (BS as master station) to the mobile radio station (MS as different users), and from the mobile radio station (MS as different users) to the base station (BS as master station) via communications link (V1) (See Fig. 1, Col. 6, lines 64-67), and

equalizing by the detector (DT) the pulses at reception for user receiver (EE in MS as user station) and for base receiver (EE in BS as master station) (See Fig. 2, Col. 6, lines 34-39),

Regarding claims 2-3 and 14-15, Ritter further teaches that linear interpolation is possible (step of interlacing of signals sent from the user stations to the master station or from the master station to the user stations) (See Fig. 1, Col. 3, lines 34-38).

Regarding claims 4 and 16, Ritter further teaches that a spatial subscriber separation according to an SDMA (Space Division Multiple Access) method can also be used (measuring the distance between the central station and a user making it possible to determine the time lag to be applied during transmission from a user station to the master station) (See Fig. 1, Col. 6, lines 4-8).

Regarding claims 5 and 17, Ritter further teaches that equalization step comprises channel estimation by means of an adjustment unit (NE) (a step of estimation of the parameters of the propagation channel) (See Fig. 2, Col. 6, lines 46-50) and a train of system basic pulse responses is produced with the clock of the basic pulse repetition rate clock (a step of equalization with sampling at the chip rate, the rate of the associated pulses) (See Fig. 1, Col. 7, lines 6-14).

Regarding claim 10, Ritter further teaches that plurality of sources are subjected to a time division multiplex process in timeslots and to coding using orthogonal codes (interlacing step uses an orthogonal code) (See Fig. 1, Col. 2, lines 16-21).

Regarding claim 12, Ritter further teaches that the system is a GSM mobile radio system with mobile stations and a base station, inherently as a centralized network (See Fig. 1, Col. 7, lines 15-18).

Regarding claim 13, Ritter further teaches that the system is a GSM mobile radio system with basic radio pulses, inherently carrying a UWB transmission layer (See Fig. 1, Col. 7, lines 15-18).

Allowable Subject Matter

5. Claims 6-9 and 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if no art rejection can be applied.

Examiner's Statement of Reasons for Allowance

6. The following is an examiner's statement of reasons for allowance:

The prior art along or in combination fails to teach or make obvious the limitations that specifically comprises:

“a step for the estimation of the parameters of the propagation channel comprising the following steps: a station sends a known sequence of N symbols ... estimated with S and y being known, in using a method of equalization” as recited in the dependent claims 6 and 18,

“the equalization of the downlink channel uses a signal received by the user station and coming from the master station, the signal being expressed in the form: ... are respectively the encoding matrix of the spread code and the sequence of symbols of the user p” as recited in the dependent claims 7 and 19,
and

“the step of equalization of the uplink channel uses a signal received by the master station and coming from a user, the signal having the form:

... the composite signal received at the master station and coming from all the users is then written as: ...” as recited in the dependent claim 8,

“during a downlink channel communication, at least the first pulse train is reserved to keep the synchronization with the master station” as recited in the dependent claim 9.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chang whose telephone number is (571) 272-3129. The examiner can normally be reached on Monday - Friday from 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


rkC

Richard Chang
Patent Examiner
Art Unit 2663


RICKY NGO
PRIMARY EXAMINER 2/22/05